REVIVE

REFUSE VEHICLE INNOVATION AND VALIDATION IN EUROPE

Project ID	779589
PRR 2024	Pillar 3 – H_2 end uses: transport
Call topic	FCH-01-7-2017: Validation of fuel cell trucks for the collect of urban wastes
Project total costs	EUR 9 760 023.65
FCH JU max. contribution	EUR 4 993 851.00
Project start - end	1.1.2018–31.12.2024
Coordinator	Tractebel Engineering (Tractebel), Belgium
Beneficiaries	Azienda Servizi Municipalizzati di Merano SpA, Commissariat à l'Énergie Atomique et aux Énergies Alternatives, Element Energy Ltd, ENGIE Impact Belgium, Environmental Resources Management Ltd, ERM France, E-Trucks Europe, Gemeente Amsterdam, Gemeente Breda, Gemeente Groningen, Gemeente Noordenveld, Plastic Omnium New Energies Fribourg SA, PowerCell Sweden AB, Prezero Nederland Holding BV, Proton Motor Fuel Cell GmbH, Renova Aktiebolag, Saver NV, Servizi Energia Ambiente Bolzano SpA, Stad Antwerpen, Symbio, Tractebel Belgium, Waterstofnet VZW

https://h2revive.eu/about-revive/

PROJECT AND GENERAL OBJECTIVES

Revive will significantly advance the state of development of fuel cell bin lorries by integrating fuel cell powertrains into 11 vehicles and deploying them at eight sites across Europe. The project will deliver substantial technical progress by integrating fuel cell systems from four major suppliers and by developing effective hardware and control strategies to meet highly demanding refuse truck duty cycles. Today, all trucks are in operation.

NON-QUANTITATIVE OBJECTIVES

- The project aims to involve EU fuel cell suppliers. Currently, two EU fuel cell suppliers are involved in the project: Proton Motor and PowerCell Sweden. In addition, two trucks are equipped with Hydrogenics fuel cell systems.
- The project aims to demonstrate a route to the high utilisation of hydrogen refuelling stations to support the roll-out of H_2 mobility for light-duty vehicles. Even with limited running hours, the three trucks deployed in the project have already consumed 4.2 t of H_2 during the project.

PROGRESS AND MAIN ACHIEVEMENTS

- The first Proton Motor fuel cell system has been delivered and successfully integrated.
- The first Revive trucks have been deployed.
- A new electric driveline has been developed, tested and deployed.
- All trucks have been constructed and have all the certifications required to be deployed.

FUTURE STEPS AND PLANS

- Increase dissemination activities. To catch up following the delays experienced in 2020, a plan for dissemination will be developed.
- Decrease teething issues.
- Carry out an in-depth performance analysis of truck deployment and focus on completing the remaining deliverables.

PROJECT TARGETS

Target source	Parameter	Unit	Target	Achieved to date by the project	Target achieved?	SOA result achieved to date (by others)	Year for reported SOA result
AWP 2017	Driving distance between FC failures	km	3 500	6 210	✓	N/A	N/A
	FC power	kW	> 40	45		90	N/A
	Tank-to-wheel efficiency	%	50	55		N/A	N/A
	Lifetime	hours	25 000	N/A		> 25 000	2020
	FCs deployed in the project	number	15	6		6	N/A
	Availability	%	90	77		N/A	N/A

Clean Hydrogen Partnership
Co-funded by the European Union